

REMARKS / ARGUMENTS

Status of Claims

Claims 1-17 are pending in the application. Claims 1-17 stand rejected. Applicant has amended Claims 1, 9, 12, 15, added Claims 18 and 19, thus leaving Claims 1-19 for consideration upon entry of the present Amendment.

Applicant respectfully submits that the rejections under 35 U.S.C. § 102(b) and (c) and 35 U.S.C. § 103(a) have been traversed, that no new matter has been entered, and that the application is in condition for allowance.

Rejections Under 35 U.S.C. § 102

Claims 1, 2, 4, 7, 8, 11, 12, 14 and 17 stand rejected under 35 U.S.C. § 102(b) and (c) as being anticipated by Lee. (U.S. Patent Publication No. 2003/0203260, hereinafter referred to as Lee).

Applicant traverses this rejection for the following reasons.

Applicant respectfully submits that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, *in a single prior art reference.*” *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). Moreover, “[t]he identical invention must be shown in as complete detail as is contained in the *** claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Furthermore, the single source must disclose all of the claimed elements “arranged as in the claim.” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

Applicant has amended Claim 1 to now recite, inter alia,

“ . . . first plurality of flow channels continuously oriented in a first direction . . . ”

“ . . . second plurality of flow channels continuously oriented in a second different direction . . . ”

“ . . . wherein each of said header channels includes third plurality of channels extending perpendicular to the respective flow channels.”

No new matter has been added by these amendments as antecedent support may be found in the application as originally filed, such as at Figure 4 and Figure 5 for example.

Dependent claims inherit all of the limitations of the respective parent claim.

Applicant respectfully submits that independent Claim 1, as amended, is not anticipated by Lee. In the office action, the Examiner stated that Lee discloses a first set of flow channels and a second set of flow channels that are perpendicular to each other. Applicant respectfully disagrees. Applicant finds that Lee teaches of a first subplate (60) and a second subplate (62) having flow channels. The subplates (60,62) are a “mirror image” of each other. [Lee, Paragraph [0029]]. Applicant respectfully submits that if the plates are mirror images, then their respective flow channels cannot be perpendicular.

To further clarify Claim 1, Applicant has amended the claim to include the limitation that the flow channels are continuously oriented in their respective directions. Applicant finds that Lee discloses flow channels that are not continuous, but rather change direction prior to reaching the header section. [Lee, Figure 5].

Applicant further finds that Lee teaches of a bipolar plate comprised of a plurality of subplates (60, 62) that are assembled to form the bipolar plate. As such, Applicant submits that the bipolar plate disclosed by Lee does not therefore disclose the limitation of a “unitary plate” as Claim 1.

Applicant has further clarified Claim 1 to include the limitation that the first and second header channels are perpendicular to their respective flow channels. Applicant finds that the bipolar plate disclosed by Lee includes a header region (84), however, this

header region is not perpendicular to the comparable flow channels (86, 88a, 88b) of Lee. [Lee, Figure 5].

Accordingly, Applicant submits that Lee does not disclose all of the claimed elements arranged as in the claim, and absent anticipatory disclosure in Lee of each and every element of the claimed invention arranged as in the claim, Lee cannot be anticipatory. Reconsideration and withdrawal of this rejection is respectfully requested.

With respect to independent Claim 12, Applicant has amended Claim 12 to now recite, inter alia,

“... first plurality of flow channels continuously oriented in a first direction ...”

“... second plurality of flow channels continuously oriented in a second different direction ...”

“... wherein said first inlet channel and said first outlet channel are perpendicular to said first plurality of flow channels ...”

“... wherein said second inlet channel and said second outlet channel are perpendicular to said second plurality of flow channels ...”

Applicant respectfully submits that Lee does not anticipate independent Claim 12. Independent Claim 12 has been amended clarify the limitations of the flow channels being continuously oriented and the outlet channels are perpendicular to the respective flow channels. Therefore, Applicant respectfully submits that Lee does not anticipate independent Claim 12 for the same reasons put forth above with respect to independent Claim 1. Reconsideration and withdrawal of this rejection is respectfully requested.

With respect to dependent Claims 2, 4, 7, 8, 11, 12, 14, 17, which depended either directly or indirectly from independent Claims 1 and 12 also incorporate all of the limitations of their respective parent claims. Accordingly, Applicant respectfully submits that Claims 2, 4, 7, 8, 11, 12, 14, 17 are not anticipated by Lee for the same reasons set forth above with respect to independent Claims 1 and 12. Reconsideration and

withdrawal of this rejection is respectfully requested.

In view of the amendment and foregoing remarks, Applicant submits that Lee does not disclose each and every element of the claimed invention arranged as claimed and therefore cannot be anticipatory. Accordingly, Applicant respectfully submits that the Examiner's rejections under 35 U.S.C. §102(b) and 35 U.S.C. §102(e) have been traversed, and requests that the Examiner reconsider and withdraw of this rejection.

Rejections Under 35 U.S.C. §103(a)

Claims 5, 6 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lee.

Applicant traverses these rejections for the following reasons.

Applicant respectfully submits that the obviousness rejection based on the References is improper as the References fail to teach or suggest each and every element of the instant invention in such a manner as to perform as the claimed invention performs. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are taught or suggested in the prior art. MPEP §2143.03.

Applicant respectfully submits that where an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. [MPEP 2143.03]. Accordingly, Applicant respectfully submits that Claims 5, 6 and 8 are not obvious in light of Lee for the same reasons set forth above with respect to independent Claim 1. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 3 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lee in view of either Marianowski (U.S. Patent No. 6,261,710, hereinafter referred to as Marianowski) or Suzuki et al. (Japan Patent Publication No. 2004-047451, hereinafter referred to as Suzuki).

Applicant respectfully submits that where an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. [MPEP 2143.03]. Accordingly, Applicant respectfully submits that Claims 5, 6 and 8 are not obvious in light of Lee for the same reasons set forth above with respect to independent Claims 1 and 12. Further, Applicant respectfully submits that Marianowski and Suzuki do not cure the deficiencies of Lee. Applicant finds that Marianowski does not disclose a header or outlet channel that is perpendicular to the flow channels, but rather a flow channel that is angled with respect to the flow channels. [Marianowski, Figure 4]. Applicant further finds that Suzuki does not disclose flow channels that are continuously oriented, rather they are similar to Lee in that the flow channels change direction. Accordingly, Applicant respectfully submits that Claims 3 and 13 are not obvious in view of Lee in light of Marianowski or Suzuki. Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 9, 10, 15 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lee in view of either Boyer et al. (U.S. Patent No. 6,410,179, hereinafter referred to as Boyer).

Applicant respectfully submits that where an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. [MPEP 2143.03]. Accordingly, Applicant respectfully submits that Claims 9, 10, 15 and 16 are not obvious in light of Lee for the same reasons set forth above with respect to independent Claims 1 and 12. Further, Applicant finds that Boyer does not cure the deficiencies of Lee. For example, dependent Claims 9 and 13, as amended, include the limitation that the insert has a plurality of channels that extend perpendicular to the flow channels. Applicant respectfully submits that the channels of Boyer extend parallel to the flow channels 34 and that Boyer does not disclose, teach or suggest such an orientation for channels in an insert. Further, if the channels of Boyer were arranged perpendicular to the flow channels, the flow plate taught by Boyer would cease to function due to the positioning of the entry and exit manifolds. Accordingly, Applicant respectfully submits

that Claims 9 and 13 are not obvious in view of Lee in light of Boyer. Reconsideration and withdrawal of this rejection is respectfully requested.

With respect to dependent Claims 10 and 16, which depend directly from Claims 9, and 15 respectively, also include all the limitations of their parent claims. Accordingly, Applicant respectfully submits that Claims 10 and 16 are not obvious in view of Lee in light of Boyer for at least the same reasons as set forth above with respect to Claims 9 and 15. Reconsideration and withdrawal of this rejection is respectfully requested.

In view of the foregoing, Applicant submits that the References fail to teach or suggest each and every element of the claimed invention and are therefore wholly inadequate in their teaching of the claimed invention as a whole, fail to motivate one skilled in the art to do what the patent Applicant has done, fail to recognize a problem recognized and solved only by the present invention, fail to offer any reasonable expectation of success in combining the References to perform as the claimed invention performs, fail to teach a modification to prior art that does not render the prior art being modified unsatisfactory for its intended purpose, and discloses a substantially different invention from the claimed invention, and therefore cannot properly be used to establish a prima facie case of obviousness. Accordingly, Applicant respectfully requests reconsideration and withdrawal of all rejections under 35 U.S.C. §103(a), which Applicant considers to be traversed.

In light of the foregoing, Applicant respectfully submits that the Examiner's rejections under U.S.C. §102(a), U.S.C. §102(c) and 35 U.S.C. §103(a), have been traversed, and respectfully requests that the Examiner reconsider and withdraw these rejections.

If a communication with Applicant's Attorneys would assist in advancing this case to allowance, the Examiner is cordially invited to contact the undersigned so that any such issues may be promptly resolved.

The Commissioner is hereby authorized to charge any additional fees that may be required for this amendment, or credit any overpayment, to Deposit Account No. 06-1130.

In the event that an extension of time is required, or may be required in addition to that requested in a petition for extension of time, the Commissioner is requested to grant a petition for that extension of time that is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to the above-identified Deposit Account.

Respectfully submitted,

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